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Marine Physical Laboratory

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VLF Ambient Noise Experiment

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Final Report Prepared for
the Office of Naval Research
Contract N00014-89-D-0142 (DO#11)
Principal Investigator: William S. Hodgkiss

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VLF Ambient Noise Experiment

Principal Investigator: W.S. Hodgkiss

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Objective:

Participation in a VLF ambient noise experiment east of the Blake Plateau in August 1990.

Background:

Over the last several years, the Marine Physical Laboratory has developed an array of 12 freely-drifting Swallow floats for use in VLF ambient noise and signal propagation experiments. Each array element contains 3 orthogonally-mounted geophones and an omni-directional VLF hydrophone. Thus, the Swallow floats act as freely-drifting DIFAR sensors. An 8 kHz array element localization system enables tracking the relative positions of the Swallow floats as a function of time.

Summary of Results:

The MPL Swallow float array was deployed twice during the NATIVE-1 experiment east of the Blake Plateau in August 1990. During each deployment, approximately 19 hours of data was recorded. The entire experiment lasted 18 days port-to-port.

Preparation for the experiment included configuring the Swallow floats, acquisition and modification of a 20' van for equipment shipment and experiment support, and transportation of both personnel and hardware to the experiment staging area in Florida.

After returning to San Diego, the Swallow float data tapes were transcribed and the data from the first deployment made available for analysis. Subsequently, a NATIVE-1 Swallow float data quick-look analysis and trip report was generated.